

EMERGENCY ACTION PLAN

JULY 2005



**ASSOCIATED DITCH COMPANIES INC.
1102 ENGLSIDE AVE
JOSEPH, OR 97846**



WALLOWA COUNTY OREGON

NATIONAL INVENTORY OF DAMS NO: OR00465



Oregon

Theodore R. Kulongoski, Governor

July 15, 2005

Water Resources Department

North Mall Office Building
725 Summer Street NE, Suite A
Salem, OR 97301-1271
503-986-0900
FAX 503-986-0904

David Hockett
1748 S. Goldsmith Avenue
Meridian, ID 83642

Re: Emergency Action Plan
Wallowa Lake Dam (W-2)


Dear Mr. Hockett:

Thank you for submitting the revised Emergency Action Plan (EAP) for the referenced project. By this letter we acknowledge receipt of the document and approve the format and information contained therein. We understand a copy of the plan has been presented to Wallowa County Dept. of Emergency Services for their use, and we trust that they are familiarized with the duties and responsibilities that are variously described.

As you are aware, it will be necessary to update the EAP whenever changes occur that result in personnel and contact information different from that currently listed, or upon any new development either upstream or downstream that could affect the project or would be located within the inundation zone below the dam. When such revisions become necessary, we understand a more detailed inundation map also will be included at that time to replace the general map (pg. 11) that presently exists.

Thank you for your cooperation and assistance in helping to ensure public safety. If you have any questions, please do not hesitate to let me know.

Sincerely,


John Falk, P.E.
Safety of Dams

c: Jim Dawson - Associated Ditch Company
Shad Hatten - Watermaster District #6
Matthew Marmor - Wallowa County Emergency Services
file

From: "David Hockett" <dhockett@att.net>
To: "John Falk" <john.a.falk@wrld.state.or.us>
Subject: Wallowa Lake Dam Emergency Action Plan
Date: Thu, 7 Jul 2005 14:01:41 -0600
X-Security: MIME headers sanitized on kettle.wrld.state.or.us
See <http://www.impsec.org/email-tools/sanitizer-intro.html>
for details. \$Revision: 1.139 \$Date: 2003-09-07 10:14:23-07
X-Mailer: Microsoft Outlook Express 6.00.2900.2180

Hi John,

Attached is the Wallowa Lake Dam Emergency Action Plan. I have incorporated all of your suggestions, ADC board of director's suggestions, and Wallowa County Emergency Service's suggestions. This plan will serve to get us started and will no doubt have additions and changes as we go forward. Please review the plan and when your ready send me your approval letter and I will make it part of the plan. I will distribute the plan once I receive you approval letter. Any questions please let me know.

Were you able to inspect the dam this past week?

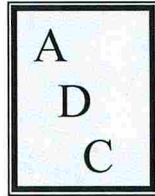
David Hockett
dhockett@att.net
1748 S. Goldsmith Ave
Meridian, ID 83642
(208) 888-1833



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EMERGENCY ACTION PLAN

JULY 2005



**ASSOCIATED DITCH COMPANIES INC.
1102 ENGLSIDE AVE
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WALLOWA COUNTY OREGON

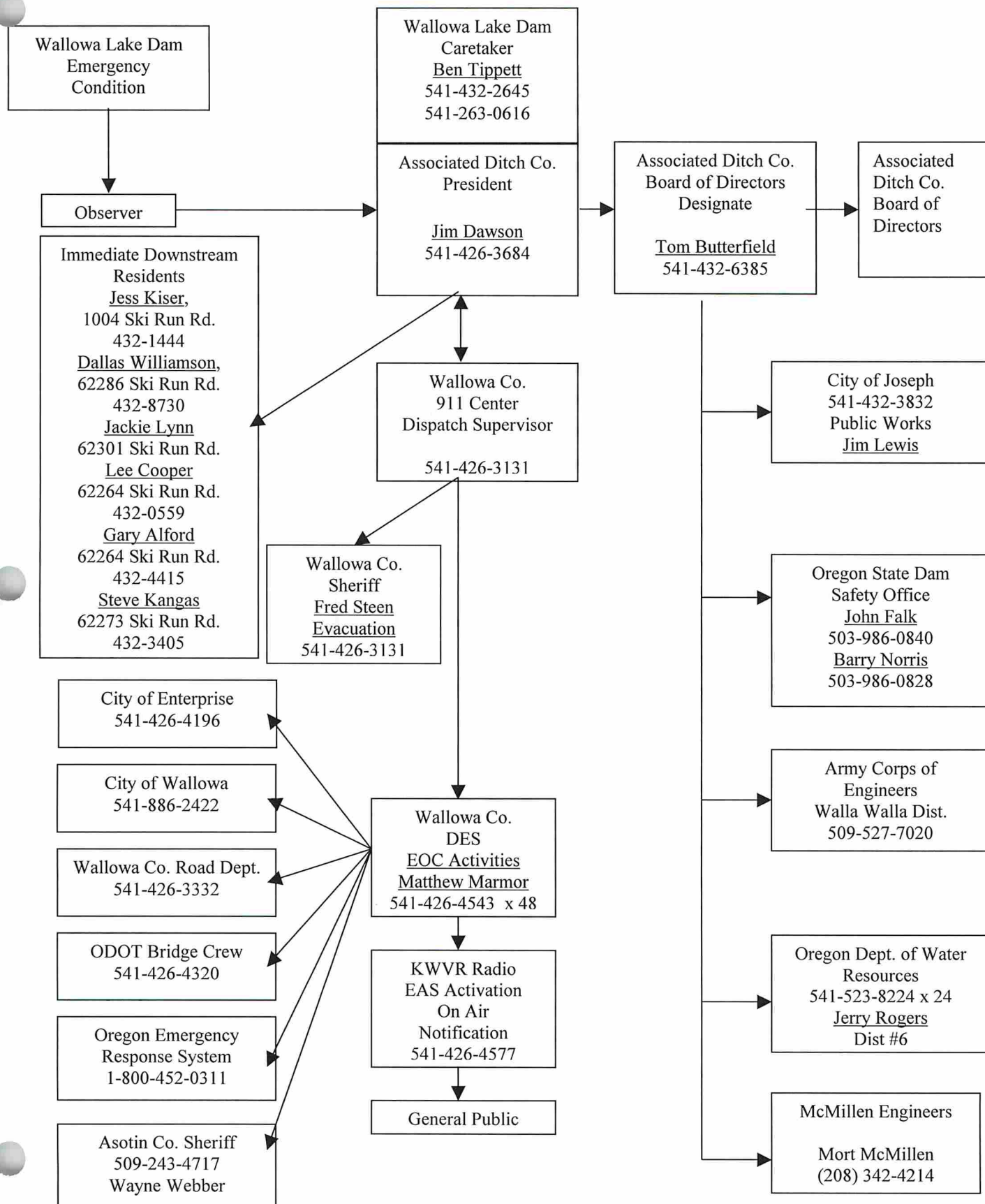
NATIONAL INVENTORY OF DAMS NO: OR00465

TABLE OF CONTENTS

- I. Notification Flowchart
 - a. Notification chart “A”, (use when dam has failed or when failure is imminent).
 - b. Notification chart “B”, (use for slowly developing failure [i.e. gate stuck in open position] could become an emergency).
- II. Statement of Purpose
- III. Project Description
- IV. Emergency Detection, Evaluation, and Classification
- V. General Responsibilities Under the EAP
 - a. Dam Owner Responsibilities
 - b. Responsibility for Notification
 - c. Responsibility for Evacuation
 - d. Responsibility for Termination and Follow-up
- VI. Preparedness
- VII. Inundation Map
- VIII. Appendices
 - a. Investigation and Analyses of Dam-break Floods
 - b. Plans for Training, Exercising, Updating, and Posting the EAP
 - c. Site-Specific Concerns
 - d. Plan Sheet & Design Drawings
 - e. Photo of Dam
 - f. Area Map
 - g. Approval of the EAP
 - h. Document Registry

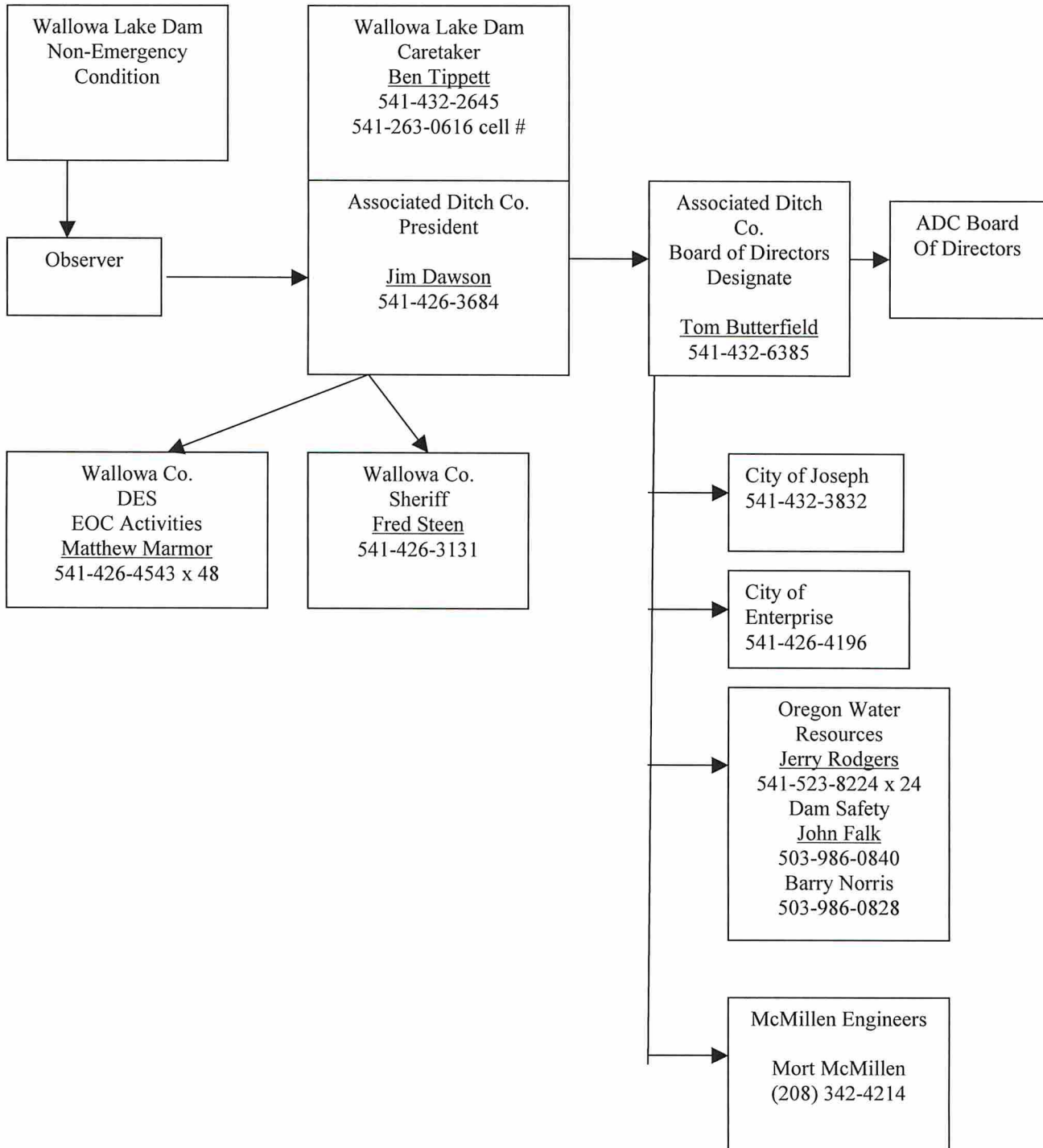
a. Notification Flowchart "A"

USE NOTIFICATION CHART "A" WHEN FAILURE HAS OCCURRED OR IS IMMINENT



b. Notification Flowchart “B”

USE NOTIFICATION CHART “B” FOR SLOW DEVELOPING FAILURE THAT IN TIME COULD BECOME AN EMERGENCY (i.e. Gate stuck open, intentional release of water that might cause flooding, major rain storm on snow pack).



II. Statement of Purpose

This plan defines responsibilities and provides procedures designed to identify unusual and unlikely conditions which may endanger the Wallowa Lake Dam in time to take immediate action and to notify the appropriate emergency management officials of possible, impending, or actual failure of the dam.

The plan also defines common terminology so that all partners have the same understanding of terms used during emergency phases though stand-down conditions.

The plan may also be used to provide notification when intentional release of water from the dam may create flooding conditions downstream from the facility.

This EAP should be considered a fluid document which will require updating from time to time as circumstances warrant or when contact information presented on the notification page has changed. Nothing in this document shall replace the reasonable and logical application of judgment in the event of an actual emergency.

III. Project Description

The Wallowa Lake Dam is located on the natural outlet at the North end of Wallowa Lake. The dam was built in 1918 and raised in 1929 to provide additional storage for irrigation and hydropower generation. Constructed as a concrete gravity structure, the dam is over 35 feet high and has a crest length of 200 feet. The dam is owner and operated by the Associated Ditch Company, Inc. a nonprofit corporation who's membership is made up of farm/ranch owner-irrigators in the South end of the valley.

The nearest downstream dam to the Wallowa Lake Dam is the Lower Granite Dam on the Snake River (approximately 275 – 300 miles down stream).

Water from the Wallowa Lake Dam flows the length of the Wallowa River, a section of the Grande Ronde River to the Snake River and on into the Columbia River System . A catastrophic failure at the Wallowa Lake Dam would not impact any downstream dam facilities.

Downstream communities of the Wallowa Lake Dam that would be impacted are: The westerly edge of the City of Joseph, the southern edge of the City of Enterprise, and the northern edge of the City of Wallowa.

The Wallowa Lake Basin is made up of fifty square miles of high mountain terrain that feeds the Wallowa Lake .

Wallowa Lake Dam provides storage capacity of approximately 52,000 acre feet of water. Maximum authorized pool level is elevation 4384.6 ft. ASL. The elevation of the top of the dam is 4390 ft. ASL. The current (5-15-05) restricted pool elevation is 4375 ft. ASL. The width of the dam is approximately 200 ft.

IV. Emergency Detection, Evaluation, and Classification

a. Emergency Detection: Early detection of problems at the dam will most likely occur during annual inspections by State of Oregon, Water Resources Department, dam safety, Associated Ditch Company (ADC) monthly inspections, and daily inspections by the dam caretaker and dam supervisor.

b. Evaluation: State of Oregon, dam safety annual inspection generates a report covering all conditions of the dam at the time of the inspections and even compares current inspections with past inspections. A copy of this report is sent to the president and board of directors of the Associated Ditch Company (ADC) noting problems that need short term, intermediate, or long term fixes. The short term and intermediate term problems are taken care of by ADC. The long term fixes will require a new dam. ADC is currently working on funding for a new dam.

Problems observed during monthly and daily inspections are reported to the President of the ADC for corrective action.

c. Classification: Detection of problems in this category are of a low level nature and therefore are not classified as an emergency requiring immediate attention. However, they do fall under the early detection heading and if left uncorrected could lead to an emergency situation later on.

Early detection as describe above will be classified as “LEVEL ONE” requiring the observer to report the problem to the President of the Associated Ditch Company (ADC) for corrective action.

CLASSIFICATION	CONDITION	ACTIONS REQUIRED
LEVEL ONE	Inspection	Observer must report deficiency to President of ADC for corrective action.
LEVEL TWO	Reservoir level is one foot above safe levels established between State of Oregon & ADC (Major rain storm on snow pack)	Observer must report deficiency to President of ADC. ADC must inform Wallowa County DES and Oregon Dam Safety. <u>Notification chart “B”</u>
LEVEL THREE	Water is topping the dam and /or washing around the wings of the dam and breach is imminent. Earthquake has occurred and <u>breach is imminent.</u>	Observer notifies dam Caretaker and emergency notification plan is implemented. 911 Center receives 911 call from citizen and confirms condition with observer/dam Caretaker. <u>Notification chart “A”</u>
LEVEL FOUR	<u>Dam has been breached.</u>	Activate notification & evacuation plan <u>Notification chart “A”</u>

V. General Responsibilities Under the EAP

a. Dam Owner Responsibilities

The Associated Ditch Company (ADC) is responsible for the maintenance, repair and operation of the Wallowa Lake Dam. The Company employs a caretaker who has daily responsibilities at the facility. The Company also has two of its board members designated as dam supervisors to oversee that activities of the dam caretaker.

b. Responsibility for Notification

The Associated Ditch Company is responsible to notify the State Dam Safety Office whenever the EAP is activated.

The Dam Caretaker is responsible for notifying the immediate downstream residents and the Wallowa County 911 Center when ever the EAP is activated.

c. Responsibility for Evacuation

The Wallowa County Sheriff is tasked in the County Emergency Operations Plan for conducting evacuations. He (the sheriff) must make certain which level of emergency is being declared so that he will in-turn know if evacuation is required. **Notification chart "A" (levels 3 & 4) means a failure has occurred or is imminent (EVACUATE NOW) and notification chart "B"(levels 1 & 2) means a slow developing failure is in process (DO NOT EVACUATE AT THIS TIME).**

d. Responsibility for Termination and Follow-Up

The President of the Associated Ditch Company (ADC) is responsible for making the decision that an emergency condition no longer exists at the dam. The President of ADC and state and local officials should agree on when it is appropriate to terminate an emergency. Once the decision to terminate is made, the President of ADC will communicate this fact to the Wallowa County DES (Matthew Marmor).

Following an emergency, an evaluation and review board will be convened. This board will be made up of representatives from all participants and chaired by the President of the Associated Ditch Company (ADC). The following should be discussed and evaluated in the after-action written review:

- Events before, during, and following the emergency.
- Significant actions taken by each participant, and improvements practicable for the future emergencies.
- All strengths and deficiencies found in procedures, materials, equipment, staffing levels, and leadership.

A written report will be the Board's final step and will be distributed to the participants.

VI. Preparedness

- a. **Annual Inspection** – Oregon Water Resources Department, Dam Safety Office.
After each annual inspection a reservoir level not to exceed is agreed upon by Dam Safety Office inspector and the Associated Ditch Company.
- b. **Monthly Inspections** – Associated Ditch Company (ADC) Dam Supervisors inspect the dam visually each month to ensure the structural integrity of the dam has not changed. They check the downstream wall of the dam for leaks and cracks that may have increased in size in the past 30 days.
- c. **Daily Inspections** – Associated Ditch Company Dam Caretaker begins his daily rounds with an overall visual inspection of the dam, checking the water level and recording it, checking the downstream wall for leaks, checking for debris on the upstream side and making adjustments to the water flow through the dam as needed.
- d. **Severe Weather Inspection** – During periods of severe weather such as heavy snow melt or rain or when the reservoir pool elevation exceeds 4375 feet, more frequent inspections will be conducted.
- e. **Emergency Exercise Program** – This program is based on a stair-step process to build up training for participation agency personnel to periodic full-scale exercise. Our approach is as follows:
 1. **Orientation Seminar:** A meeting that involves bringing together those with a role or interest in an emergency action plan (**conducted annually**). Who should attend:
 - ADC President
 - ADC Dam Caretaker
 - ADC Dam Supervisors
 - Wallowa County Sheriff and 911 Center
 - Wallowa County DES
 - City of Joseph, Public Works Director
 - Wallowa County Road Supervisor
 - KWVR Radio Manager
 - City of Enterprise Public Works Director
 - City of Wallowa Public Works Director
 - Oregon Department of Transportation
 - Oregon Water Resources Department
 2. **Drill** – An in-house exercise performed to verify the validity of the telephone numbers and other means of communication along with the dam owner's response (**conducted annually**).
 3. **Tabletop Exercise** – The tabletop exercise involves a meeting of the dam owner and the state and local emergency management officials in a conference room environment. The format is informal with minimum stress involved. The exercise begins with the description of a simulated event and proceeds with discussions be the

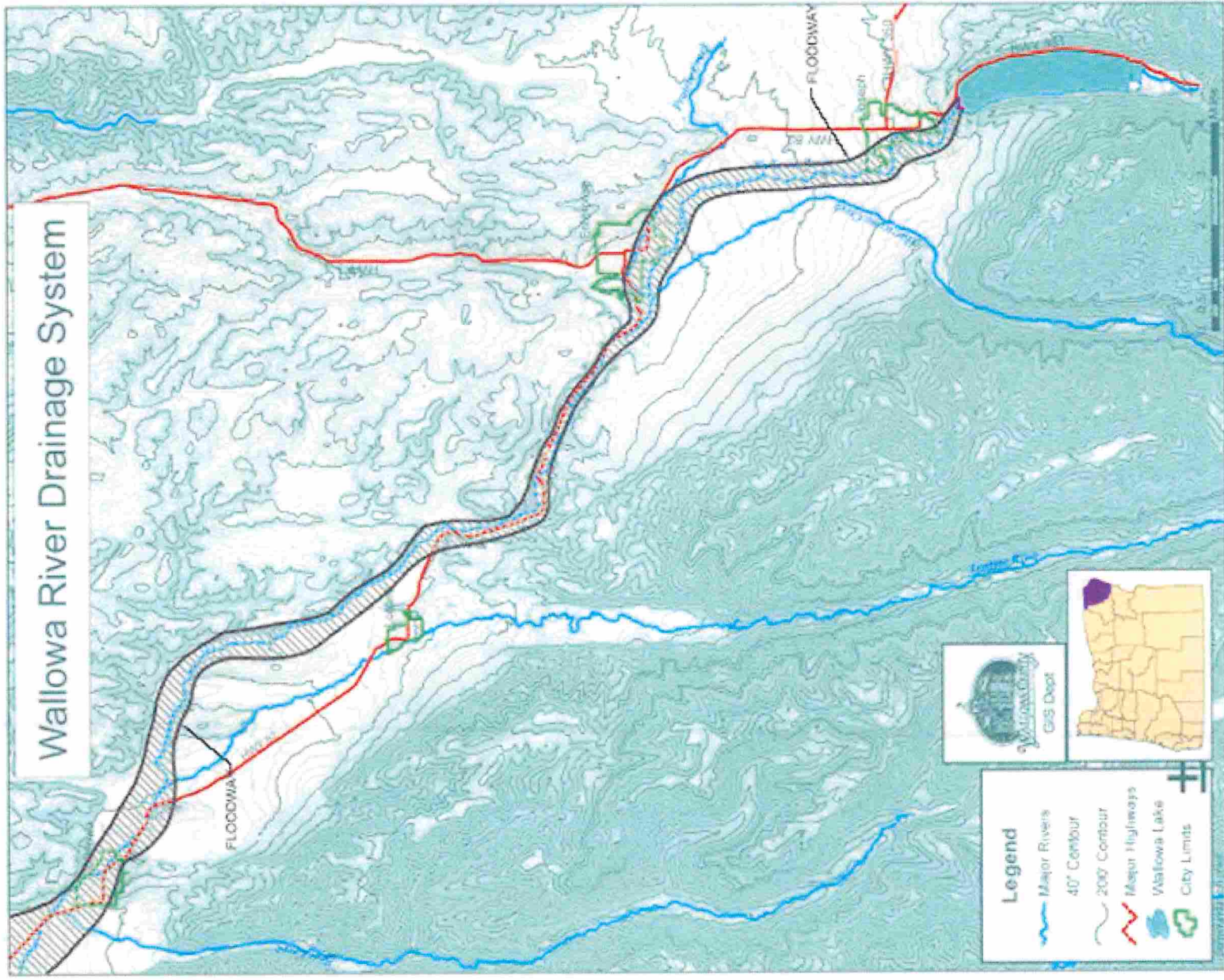
participants to evaluate the EAP and response procedures and to resolve concerns regarding coordination and responsibilities (**conducted once every 2 years**).

4. **Functional/Full Scale Exercise** – The functional exercise involves the various levels of the dam owner and state and local emergency management personnel that would be involved in an actual emergency. It takes place in a stress-induced environment with time constraints and involves the simulation of a dam failure and other specified events. The participants “act out” their actual roles. The exercise is designed to evaluate both the internal capabilities and responses of the dam owner and the workability of the information in the EAP used by the emergency management officials to carry out their responsibilities (functional/full scale exercises should be conducted once each 5 years).

f. Emergency Supplies, Equipment & Resources

1. Earth, sand, gravel, & rock fill:
 - a. Turner Excavating (541) 432-4741
 - b. Moffit Brothers Construction (541) 569-2284
2. Concrete sources:
 - a. Southfork Ready Mix (541) 569-8601
 - b. R.D. Max Inc. LaGrande (651) 963-8601
3. Pumps:
 - a. Turner Excavating (541) 432-4741
 - b. Moffit Brothers construction (541) 569-2284
4. Heavy equipment:
 - a. Turner Excavating (541) 432-4741
 - b. Moffit Brothers (541) 569-2284
5. Engineers:
 - a. McMillen Engineers (208) 342-4214
6. Divers:
 - a. Ballard Diving & Salvage Inc. (206) 782-6750 Seattle, WA
 - b. Norwesco Marine Inc. 1- (800) 767-4331 Spokane, WA
 - Advanced American Diving Inc. (503) 650-8207 Oregon City, OR
7. Power systems: (Generators)
 - a. Enterprise Electric & Rental (541) 426-3601

VII. Inundation Map



VIII. Appendices

a. Investigation and Analyses of Dam Break, Floods

A Phase I inspection conducted by Portland District Corps of Engineers in January 1979 and (with some exceptions) generally supported by Oregon Water Resources Department sets forth a theoretical estimation that the “probable maximum flood” (PMF) would overtop the Wallowa Lake Dam by one foot and perhaps lead to the washing (out and around) of the right (NE) wing wall of the dam. This event would most probably lead to a catastrophic failure of the dam. The written report went on to say that the stability of the dam is questionable for water levels between elevations 4386 and 4390. The report recommends that the maximum storage level be restricted to elevation 4375 until corrective measures can be implemented. The Associated Ditch Company (ADC) agrees with this recommendation and manages the reservoir at or below elevation 4375. This mutually agreed upon reservoir level is reviewed each year during the annual inspection by OWRD Office of Dam Safety.

The chance of this PMF occurring is highly unlikely, as supported by the Oregon Water Resources Department in their letter dated June 27, 1979, never the less ADC manages the reservoir at less than authorized levels supporting a margin of safety that everyone can support.

b. Plans for Training, Exercising, Updating and Posting the EAP

The Associated Ditch Company and the Wallowa County DES will cooperatively be responsible for training and exercise development for both the ADC organization and other participants to this plan.

The EAP will be reviewed/updated at least annually by ADC and WCDES prior to 1 June of each year.

Printed copies of the EAP will be located at:

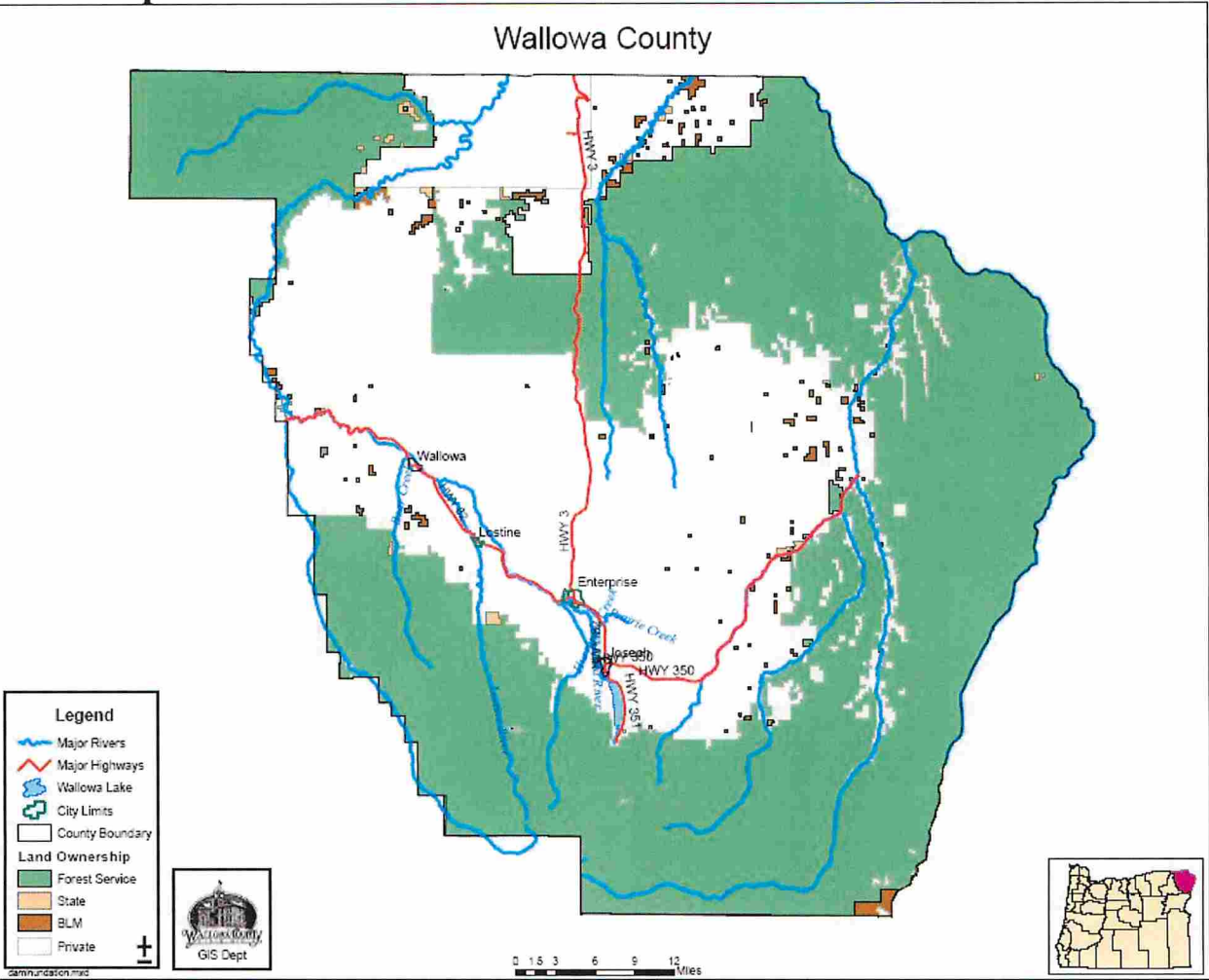
- Wallowa County Department of Emergency Services Office
- Wallowa County 911 Center
- Dam Caretaker’s Resident at the dam
- Oregon Water Resources Office

Anyone with comments/changes or additions to the EAP should be directed to:
President, ADC, 1102 Engleside Ave. Joseph, OR 97846

c. Site-Specific Concerns

- Joseph water system
- Wallowa Lake County Service District
- Alpine House
- Other

f. Area Map



g. Approval of the EAP

h. Document Registry

1.	Associated Ditch Company
2.	Wallowa County 911
3.	Oregon Department of Water Resources, Office of Dam Safety
4.	(others will follow)
5.	
6.	
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